

Intent: We transform lives through learning by inspiring the next generation of designers and engineers to be independent creative problem solvers.

Implementation: The Engineering and Design Technology curriculum aims to empower students with the knowledge and ability to solve problems by applying their practical, mathematics and creative skills to a variety of real-life problems.

We place a real emphasis on teaching Engineering from a first principles basis, we want our students to question why they are doing what they do, to really understand the principles and in turn gain a much deeper understanding and knowledge of the processes involved. We also aim for our students to develop an appreciation of the beauty and power of design technology, and a sense of enjoyment and curiosity for the subject. We have a fundamental belief that all students can succeed in DT and Engineering and this is achieved through the process of intelligent practice and effective curriculum sequencing.

KS5 DT CURRICULUM MAP

Year/Term	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 12 DT	<p>1.1 What can be learnt by exploring contexts that design solutions are intended for?</p> <p>1.2 What can be learnt by undertaking stakeholder analysis?</p> <p>1.3 How can usability be considered when designing prototypes?</p>	<p>2.1 Why is it important to analyse and evaluate products as part of the design and manufacturing process?</p> <p>2.2 Why is it important to understand technological developments in product design</p> <p>2.3 Why is it important to understand both past and present developments in product design?</p> <p>3.1 What factors need to be considered whilst investigating design possibilities?</p>	<p>3.3 What factors need to be considered when manufacturing products?</p> <p>3.4 What factors need to be considered when distributing products to markets?</p> <p>3.5 How can skills and knowledge from other subject areas, including mathematics and science, inform decisions in product design?</p>	<p>4.1 How do product designers use annotated 2D and 3D sketching and digital tools to graphically communicate ideas?</p> <p>4.2 How do industry professionals use digital design tools to support and communicate the exploration, innovation and development of design ideas?</p> <p>4.3 How do product designers use different approaches to design thinking to support the development of design ideas?</p>	<p>5.1 What factors influence the selection of materials that are used in products?</p> <p>5.2 What materials should be selected when designing and manufacturing products and prototypes in product design?</p> <p>5.3</p> <p>Why is it important to consider the properties/characteristics of materials when designing and manufacturing products?</p>	<p>6.1 What considerations need to be made about the structural integrity of a design solution?</p> <p>6.2 How can products be designed to function effectively within their surroundings?</p> <p>6.3 What opportunities are there through using smart and modern technologies within products?</p> <p>7.1 How can materials and processes be used to make iterative models?</p>

		3.2 What factors need to be considered when developing design solutions for manufacture?				
Year/Term	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 13 DT	<p>7.2 How can materials and processes be used to make final prototypes?</p> <p>7.3 How can materials and processes be used to make commercial products?</p> <p>7.4 How is manufacturing organised and managed for different scales of production?</p> <p>8.1 How can designers assess whether a design solution meets its stakeholder requirements?</p> <p>Alongside the theory content all students will begin their major project.</p>	<p>8.2 How can product designers and manufacturers assess whether a design solution meets the criteria of technical specifications?</p> <p>8.3 How do designers and manufacturers determine whether design solutions are commercially viable?</p> <p>9.1 How can safety be ensured when working with materials in a workshop environment?</p> <p>9.2 What are the implications of health and safety legislation on product manufacture?</p>	Major Project continues	Major Project Continues and preparation for mock exams.	Major Project	Major Project and preparation for final exams.

Impact: To ensure that all students make good progress, students are continually assessed. At KS4 these assessments will feed into the tracker and teaching and interventions will be adapted accordingly. Key vocabulary will be taught and assessed through knowledge organisers. At KS4 there is a much stronger focus on assessing the practical aspects of Engineering and Design Technology preparing the students for their external exams. Progress is tracked through central records and classroom teachers will adapt teaching accordingly. Pupil engagement in homework and intervention is also closely monitored and all parents/guardians are kept up to date through regular contact. Through the curriculum we aim to develop student's appreciation of engineering processes, and a sense of enjoyment and curiosity for the subject. The success of this will be monitored at the end of Year 10 with the external exams. Keystage 5 students make up the majority of the school and they study one of three different routes through the department. Either the Extended Diploma, a Diploma or the Extended Certificate. All students are successful on one of these three routes completing their course over the two years and ensuring they either go on to further study, undertake an apprenticeship or start work.